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WHAT IS CLAIMED IS:

 An x-ray mask blank having at least an x-ray membrane on a substrate,

wherein said x-ray membrane has a surface condition satisfying the following expression (1):

$$(Ra_{max}-Ra_{min})/(Ra_{max}+Ra_{min}) \leq 0.15$$
 (1)

where Ra_{max} denotes a maximum value of Ra of a surface roughness (Ra: center-line average roughness) on a plurality of points within a predetermined area on said x-ray membrane, and

Ra_{min} denotes a minimum value of Ra of the surface roughness (Ra: center-line average roughness) on a plurality of points within a predetermined area on said x-ray membrane.

- 2. The x-ray mask blank according to claim 1, wherein an average of the surface roughness (Ra: center-line average roughness) on a plurality of points within a predetermined area on said x-ray membrane is 1.0 nm or less.
- The x-ray mask blank according to claim 2, wherein the
 surface of said x-ray membrane is a generally uniformly polished surface.
 - 4. The x-ray mask blank according to any one of claim 1, wherein said x-ray membrane comprises a silicon carbide film.

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5. An x-ray mask having an x-ray absorbing film pattern on an x-ray membrane supported by a frame pody, wherein said x-ray mask is manufactured by the use of said x-ray mask blank according to claim 1.